



FLUORESCENCE RESONANCE ENERGY TRANSFER SCREENING ASSAY FOR THE IDENTIFICATION OF HIV-1 ENVELOPE GLYCOPROTEIN-MEDICATED CELL

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This application is a continuation-in-part application of U.S. Serial No. 08/175,515, filed June 7, 1995, the content of which is hereby incorporated into this application by reference.

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Background of the Invention

Throughout this application, various publications are referenced. The disclosure of these publications is hereby incorporated by reference into this application to describe more fully the art to which this invention pertains.

HIV infects primarily helper T lymphocytes and monocytes/macrophages--cells that express surface CD4--leading to a gradual loss of immune function which results in the development of the human acquired immune deficiency syndrome (AIDS). The initial phase of the HIV replicative cycle involves the high affinity interaction between the HIV exterior envelope glycoprotein gp120 and the cellular receptor CD4 (Klatzmann, D.R., et al., Immunodef. Rev. 2, 43-66 (1990)). Following the attachment of HIV to the cell surface, viral and target cell membranes fuse, resulting in the introduction of the viral genome into the cytoplasm. Several lines of evidence demonstrate the requirement of this interaction for viral infectivity. In vitro, the introduction of a functional cDNA encoding CD4 into human cells which do not normally express CD4 is sufficient to render these otherwise resistant cells susceptible to HIV infection (Maddon, P.J., et al., Cell 47, 333-348 (1986)).

Characterization of the interaction between HIV gp120 and